Each case of dystocia constitutes a clinical problem which may be solved if a correct procedure is followed. It is only after eliciting information from the owner or caretaker and after a methodical examination of the animal that one can make a diagnosis which is essential in correcting the abnormality to delivery.

As with all medical problems, it is essential that one obtain as much history as possible associated with the case. The birth canal should be examined to determine if it is dilated, twisted, moist or slippery, inflamed, swollen, dry, necrotic, contains pathological bands, stenotic areas or tumors, or contains gummy mucus indicating that parturition has not yet begun or is in the early stages. The degree of dilation or relaxation of the cervix should be noted as well as whether there is any evidence of torsion. The size of the pelvic inlet, vulva, and vagina in relation to the size of the fetus should also be checked. The fetus should be examined to determine if it is dead or alive as this will alter the prognosis and make a difference in the manner in which the case is managed.

**Obstetrical Equipment Required**

The major classification of obstetrical equipment is as follows:

1. **Instruments of Traction:**
   Obstetrical (OB) cords and straps, OB chains, and handles, OB snares, OB hooks (long and short, blunt and pointed), OB forceps, OB pulleys and OB fetal extractors.

2. **Instruments of Repulsion:**
   Kuhn’s Crutch, OB repeller with or without spearhead.

3. **Instruments of Incision and Excision:**
   Finger fetotomy knives (straight or curved), guarded fetotomy knives, hoe blade castration knife, BP scalpel (naked or guarded blade), fetatures (various types), OB chisel (plain or guarded), and various types of wire saws.

4. **Instruments of Rotation:**
   Detorsion rod, OB forceps.

**The Use of Epidural Anesthesia in Obstetrics**

Epidural anesthesia is widely utilized in the management of obstetrical problems in the cow because:
1. Its stops abdominal standing and makes mutation of the fetal extremities, repulsion of the fetus, correction of breech presentation and uterine torsion easier.

2. It abolishes or reduces all pain and is therefore more humane and should be administered when great power is used as in some forced extractions.

3. It greatly increases the speed, ease, and safety to the operator and patient in fetotomy operations.

4. With proper epidural anesthesia, the animal stands quiet without moving about or lying down, which is helpful to the operator.

5. Often the cow that is down and refuses to stand will rise and stand normally following the administration of epidural anesthesia.

6. Defecation is suspended.

7. The animal does not rapidly expel lubricants pumped into the uterus.

8. When used in caesarean section, it controls straining and prevents prolapse of the intestine through the surgical incision.

9. It is used to aid replacement of prolapse of the vagina, cervix, uterus, rectum or bladder.

10. By controlling straining, it may prevent prolapse of the uterus immediately after a difficult parturition.

11. It alleviates straining associated with severe vulvitis or vestibulitis.

Obstetrical Operations

The obstetrical operations may be divided into four major classifications: Mutation, forced extraction, fetotomy and caesarean section (hysterotomy)

A. Mutation

Mutation is defined as those operations by which a fetus is returned to a normal presentation, position, and posture by repulsion, rotation, version, or extension of the extremities.

1. Repulsion (Retropulsion):

Consists of pushing the fetus out of the birth canal into the uterus where there is more room to correct the abnormal position of the fetus and its extremities.

Repulsion may be accomplished by the operator’s arm or by the use of a crutch or repeller.

2. Rotation:

Rotation is turning of the fetus on its long axis to bring it into a dorso-sacral position. In correcting dystocias in unipara by rotation of the body, the fetus should be repelled cranially out of the pelvic cavity. If this cannot be accomplished, as in cases of prolonged dystocia, proper lubrication of the fetus and birth canal is necessary to make rotation of the fetus possible.
3. Version

Version is the rotation of the fetus on its transverse axis into an interior or posterior presentation.

4. Extension and adjustment of the extremities

This is the correction of abnormal postures, usually due to flexion of one or more of the extremities, thus causing dystocia. Abnormal postures are difficult and usually impossible to correct within the pelvis, as such, the fetus should be expelled out of the pelvis before these procedures are attempted.

B. Forced Extraction (Traction)

Traction is the most frequently applied obstetrical procedure intended for augmenting and occasionally replacing the dam’s expulsive efforts. For safe and effective delivery, forced extraction must mimic natural expulsion as closely as possible. In addition to propelling the fetus, expulsive efforts simultaneously guide the fetus in a manner that reduces resistance. Thus, the general direction is adjusted to the arc formed by the greater curvature of the pregnant horn and the birth canal.

C. Fetotomy

Fetotomy can be defined as the sectioning or dismemberment of a fetus to facilitate its delivery through the birth canal. This procedure is usually performed only on dead fetuses; if the fetus is alive and cannot be safely delivered by mutation and forced extraction, then a caesarean section is indicated.

Indications for the use of fetotomy include:

1. An oversized fetus
2. Abnormalities in presentation, position, or posture or a combination of these which cannot be corrected by mutation.
3. When the fetus is emphysematous and the dam is toxic.
4. Fetotomy is generally recommended in preference to c-section when the required operation is simple, involving only one or two procedures. In cases where more complicated fetotomy procedures would be required. A caesarean section should be recommended.

Some of the terminologies used in fetotomy include:

1. Total fetotomy, this refers to the successive dismemberment of the entire fetus.
2. Partial fetotomy is the removal of only those parts of the fetus necessary for its delivery.
3. Percutaneous fetotomy - sectioning of the fetus through the skin.
4. Subcutaneous fetotomy - sectioning of the fetus beneath the skin, leaving the skin attached to the fetus.
5. Decollation - section through the neck at the level of the anterior thorax.
6. Decapitation - section through the neck at the occipital joint.
7. Direct fetotomy - section of the fetus in which the fetatome wire extends forward from the head of the fetatome forming an angle near 180 degrees with the shaft of the fetotomy. In this case, the cut is towards the operator.

8. Indirect fetotomy - section of the fetus in which the fetatome wire forms an acute angle, or an angle near 90 degrees with the shaft of the fetatome. The cut is partly away from or at right angle to the operator.

Before one embarks on performing a fetotomy, there are certain factors which should be considered. In general, fetotomy should not be attempted unless:

1. Proper fetotomy instruments are available.
2. There is adequate space in the birth canal for introduction and alignment of the fetatome.
3. The patient can be restrained in an area that allows adequate space for operating the wire saw.
4. Adequate help is available.

Another clearly definite contraindication is the presence of injuries in the birth canal of the dam.

Basic guidelines for total or partial fetotomy include:

1. Amputate as much as possible of the part to be removed with a single cut.
2. Do not leave sharp edged skeletal remnants which can produce trauma to the birth canal.
3. When amputating lower limbs, direct the section through or below the carpal or tarsal joints to prevent the chain from slipping off.

Another important feature which should always be borne in mind is that adequate lubrication of the birth canal is essential to the success of the procedure.

D. Caesarean Section

Caesarean section is indicated in those cases when mutation, forced extraction or fetotomy are deemed inadequate or too difficult to be employed to relieve the impending or present dystocia, and when it is desired that the fetus be delivered alive. Indications for caesarean section include fetal oversize, feto-pelvic disproportion, incomplete dilation of the cervix, irreducible torsion of the uterus, hydrops of the fetus, hydrops allantois or abnormalities of presentation, position or posture, ventral hernias and prolonged cases of dystocia.